

Passive Airborne Collision Warning Device and Method

Abstract

A passive airborne mounted collision warning system suitable for light aircraft that enables an observer aircraft to determine the position of a nearby transponder-equipped target aircraft. The transponder-equipped target aircraft transmits replies responsive to interrogation signals from rotating secondary surveillance radars (SSR). In an embodiment of the invention, position of the target aircraft is determined based on the known position of the observer aircraft obtained e.g. via satellite navigation means such as GPS, the position of the SSR, and the bearing of the target aircraft measured by a direction finding antenna. The direction-finding antenna elements and the GPS receiver components are included in a device that is externally mounted on the observer aircraft. The data from the device is connected to a portable computer for processing and presentation to the pilot to alert him of the position of the target aircraft for avoiding collisions.